WEATHER OF THE MONTH.

WEATHER OF NORTH AMERICA AND ADJACENT OCEANS.

GENERAL CONDITIONS.

By H. C. FRANKENFIELD, Supervising Forecaster.

Midway Islands and Honolulu.—The former showed high pressures for the season in the first decade and below normal pressures thereafter, while Honolulu was continuously low the entire month, the markedly low reading of 29.64 inches being reported on the 17th.

Alaska.—Pressure was low during the first week of the month and decidedly and continuously high thereafter, while temperatures were just the reverse, being above normal during the first week followed by below normal temperatures to the end of the month.

United States.—Pressure alternated between low and high during the first and second decades, except in the Rocky Mountain Region where it was high, while during the last decade it was for the most part almost continuously above normal throughout the entire country.

Azores and Bermuda.—Pressure at Bermuda was low from the 3d to 6th and 12th to 16th, and high from the 7th to 10th and from 19th to the end of the month, while Horta was high from the 1st to 11th and 15th to 24th, low from the 12th to 14th, and indifferent from the 25th to 31st.

NORTH PACIFIC OCEAN.

By F. G. TINGLEY, Meteorologist.

January weather on the North Pacific Ocean was, on the whole, similar to that of December, during which relatively quiet conditions prevailed.

From the 1st to the 7th a well-developed cyclone occupied the region of the Aleutian Islands, Bering Sea, and Alaska, with anticyclones extending along both the North American and Asiatic coasts. This pressure distribution resulted in moderately strong westerly winds along the northern steamer routes, at times reaching the force of a fresh gale. Continuous strong southerly winds prevailed along the coast of southeastern Alaska.

Commencing about the 8th, the Asiatic anticyclone developed progressively to the eastward, while pressure rose strongly over Alaska. The Pacific coast anticyclone diminished and moved southeastward. This rearrangement of pressure left the eastern Pacific covered by a cyclone of considerable magnitude but only moderate intensity and with low pressure developing in the region of the Japanese Islands. This pressure distribution continued with but slight modifications until the end of the month.

On the 12th and 13th strong gales were experienced along the northern steamer route near the one hundred and fiftieth meridian and moderate gales on the southern route east of the Hawaiian Islands. On the 23d and 24th moderate gales again prevailed on the latter route and also to the eastward of Japan.

NORTH AMERICA.

By H. C. FRANKENFIELD, Supervising Forecaster.

During the early part of the month with high pressure over the northern and central Plateau regions and low pressure over Alaska, low areas made their appearance over Alberta and as is more or less common with LOWS of this type gave birth to several secondaries, and, while several secondary high pressure centers broke off from the Plateau HIGH and moved eastward, the Alberta type of anticyclone was almost entirely absent. These conditions resulted in extremely cold weather in the West and South, especially in the latter, and in fairly general precipitation from the Plains States eastward, with snows in northern and rains in southern districts.

In the latter part of the month, with continuously high pressure in Alaska, Alberta LOWS were infrequent, the only LOW of North Pacific origin that developed during the month and high pressure areas of the Alberta type, accompanied by quite low temperatures, advanced eastward and southeastward from that region. During the last decade, although well-defined low pressure areas were rare, precipitation was more or less frequent from the Mississippi Valley eastward and an ice storm occurred in the Ohio Valley, Tennessee, and in the mountain districts of southwestern Pennsylvania, Virginia, and the Carolinas (see p. 50, below).

NORTH ATLANTIC OCEAN.

By F. A. YOUNG.

The average pressure for the month was slightly above the normal at land stations on the American coast, in the West Indies, the Bermudas, and the Azores, while it was considerably below on the north coast of Scotland.

As in the previous month the average pressure gradient between the Azores HIGH and the Icelandic LOW was abnormally steep, with unusually heavy weather over the eastern section of the steamer lanes.

The LOW that was central off the Canadian coast on December 31, 1919, as shown on Chart XVI for that date moved rapidly eastward, and on January 1 was central near latitude 52° N., longitude 37° W. (see Chart IX). Heavy southwesterly gales swept over the region between the fortieth and fiftieth parallels, and thirtieth and fiftieth meridians, several vessels reporting wind velocities of from 75 to 90 miles an hour. On the same day strong northerly gales were encountered as far west as the twentieth meridian. On January 2, as shown on Chart X, the western disturbance of January 1 was central near latitude 50°, longitude 22°, while winds of from gale to hurricane force prevailed between the twentieth and fortieth meridians.

On the 3d the center of this LOW was near Valentia, Ireland, and the storm area had contracted in extent since the previous day, although northwesterly gales, with hail, were still encountered in the southwesterly quadrants. On the 5th a disturbance of limited extent was central near Bermuda, with northerly gales between the thirtieth and fortieth parallels, west of the sixty-fifth meridian. From the eighth to the twelfth moderate to strong gales were encountered over the eastern portion of the steamer lanes, reaching their maximum intensity on the 11th, when a number of vessels off the Irish coast reported wind velocities of over 60 miles an hour. Chart XI for January 13 shows a LOW central about 300 miles east of St. Johns, N. F., with strong gales in the southerly quadrants, extending as far south as the thirty-fifth parallel. On the 14th (see Chart XII) heavy weather